

METHOD AND APPARATUS FOR BANDWIDTH ESTIMATION

BACKGROUND OF THE INVENTION

1. *Related Applications*

5 [0001] The present application claims priority to U.S. Provisional
Application Number 60/296,028 filed June 5, 2001.

2. *Field of the Invention*

[0002] The present invention relates to wireless communications.
10 More specifically, the present invention relates to signal reception.

3. *Background Information*

[0003] A system for mobile wireless communications may support
communications between a base station and a mobile unit even when the
15 mobile unit is in motion. For example, a system for cellular telephony may
support communications even when the mobile unit is moving at a high rate of
speed, such as in an automobile or on a train.

[0004] Relative movement between a mobile unit and a base station in
communication may affect the characteristics of the transmission channel
20 between them, however. Specifically, this relative movement may give rise to
a Doppler frequency shift that results in a spreading of the transmitted signal at
the receiver. The Doppler effect may be illustrated graphically by comparing
spectral plots of a transmitted signal at the transmitter and at the receiver. For
example, a pilot signal of a code-division multiple-access (CDMA) system